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HOUSE JOINT RESOLUTION 1381

By Ragan

A RESOLUTION to congratulate Dr. Jack Dongarra, recipient of the 2021 Association for Computing Machinery's A.M. Turing Award.

WHEREAS, it is the privilege of the members of this General Assembly to recognize those preeminent scholars who have made significant contributions to their field; and

WHEREAS, one such individual is Dr. Jack Dongarra, who was recently awarded the 2021 A.M. Turing Award by the Association for Computing Machinery (ACM) for his pioneering contributions to numerical algorithms and libraries; and

WHEREAS, the ACM A.M. Turing Award, often referred to as the "Nobel Prize of Computing," is given for contributions of lasting and major technical importance to computer science; carrying a $1-million prize, the award is named in honor of Alan Turing, a British mathematician and the father of theoretical computer science and artificial intelligence; and

WHEREAS, Dr. Jack Dongarra has been a University Distinguished Professor at the University of Tennessee and a Distinguished Research Staff Member at Oak Ridge National Laboratory since 1989; he directs the Innovative Computing Laboratory in the Min H. Kao Department of Electrical Engineering and Computer Science in the Tickle College of Engineering at the University of Tennessee, Knoxville, and has served as a Turing Fellow at the University of Manchester (United Kingdom) since 2007; and

WHEREAS, Dr. Dongarra holds a Bachelor of Science degree in Mathematics from Chicago State University, a Master of Science degree in Computer Science from the Illinois Institute of Technology, and a Ph.D. in Applied Mathematics from the University of New Mexico; and

WHEREAS, Dr. Dongarra's contributions to his field are manifold and monumental; his linear algebra libraries are key software elements used in virtually all scientific and engineering modeling and simulation applications; multimedia, artificial intelligence, and gaming applications widely use this software; and

WHEREAS, his codes have powered applications in the world's largest supercomputers for decades, and for nearly thirty years, his programs have determined which computer is crowned the fastest in the world; and

WHEREAS, Dr. Jack Dongarra pioneered the use of autotuning, wherein programs automatically identify the best approaches to optimize performance, often outperforming vendor-supplied codes; and

WHEREAS, he also pioneered the use of mixed precision arithmetic, which accelerates computations and reduces energy demands; this approach is the basis of huge performance leaps for artificial intelligence acceleration in recent years; and

WHEREAS, Dr. Dongarra also developed standard interfaces to obtain detailed performance information across a range of different processors and computers; this interface now underpins much of the most important supercomputing performance tuning and debugging software tools; and

WHEREAS, his receipt of the ACM A.M. Turing Award is not the first time he has been duly honored for his work; his other honors include the Institute of Electrical and Electronics Engineers (IEEE) Computer Pioneer Award, the Society of Industrial and Applied Mathematics (SIAM)/ACM Prize in Computational Science and Engineering, and the ACM/IEEE Ken Kennedy Award; and

WHEREAS, Dr. Dongarra is a Fellow of ACM, IEEE, SIAM, the American Association for the Advancement of Science, the International Supercomputing Conference, and the

International Engineering and Technology Institute, as well as a member of the National Academy of Engineering and a foreign member of the British Royal Society; and

WHEREAS, Dr. Dongarra is undoubtedly one of the giants in his field, upon whose shoulders future generations will surely stand, and it is fitting that he be honored on this momentous occasion; now, therefore,

BE IT RESOLVED BY THE HOUSE OF REPRESENTATIVES OF THE ONE HUNDRED TWELFTH GENERAL ASSEMBLY OF THE STATE OF TENNESSEE, THE SENATE CONCURRING, that we commend and congratulate Dr. Jack Dongarra, recipient of the 2021 Association for Computing Machinery's A.M. Turing Award, extending our best wishes for much continued success.

BE IT FURTHER RESOLVED, that an appropriate copy of this resolution be prepared for presentation with this final clause omitted from such copy and upon proper request made to the appropriate clerk, the language appearing immediately following the State seal appear without House or Senate designation.